

SIX NEW SPECIES OF NEOTROPICAL ARADIDAE
(HEMIPTERA)

NICHOLAS A. KORMILEV

Research Associate in Entomology, Bernice P. Bishop Museum, Honolulu, Hawaii; mailing address: 87-17 Myrtle Ave., Glendale, New York 11385.

Abstract.—Six new taxa are proposed, *Aneurus aterrimus*, n. sp. (Costa Rica), *A. brailovskyi*, n. sp. (Mexico), *Mezira guanacastensis*, n. sp. (Costa Rica), *M. hondurensis*, n. sp. (Honduras), *M. proxima*, n. sp. (Peru), and *Notapictinus piliger*, n. sp. (Colombia).

By the kind offices of Dr. Harry Brailovsky, Instituto de Biología, Universidad Nacional Autónoma de México, México 20, México, and Dr. John A. Chemsak, University of California, Berkeley, I had the privilege of studying Neotropical Aradidae under their care, for which I express my sincere gratitude.

Among these Aradidae six species were new and are described in this paper. Of particular interest is a species of *Notapictinus* Usinger and Matsuda, 1959, whose body, antennae and legs are covered with stiff, erect bristles, the first case of such pilosity in this genus.

All measurements in this paper were taken with micromillimeter eyepiece, 25 units = 1 mm. In ratios, the first figure represents the length and the second the width of measured portion.

Subfamily ANEURINAE

Genus *Aneurus* Curtis, 1825

Aneurus brailovskyi Kormilev, NEW SPECIES

Figs. 1-3

Female.—Elongate ovate; head and pronotum partially granulate; looks scabrous.

Head: Almost as long as its width across eyes (15.5:16.0); anterior process rounded anteriorly, not reaching tip of antennal segment I; antenniferous tubercles truncate anteriorly; postocular blunt, reaching outer border of eyes. Eyes semiglobose, moderately protruding. Vertex transversely striate.

Antenna strong; antennal segment I barrel-shaped; II subobovate; III tapering toward base; IV fusiform; relative length of antennal segments I to IV are: 5.0:5.0:5.5:11.5. Labium reaching line connecting hind borders of eyes.

Pronotum: Less than $\frac{1}{2}$ as long as its maximum width (15:35); collar sinuate anteriorly; anterior borders rounded and produced forward beyond collar; lateral notch slightly sinuate; lateral borders of hind lobe parallel; hind border sinuate medially. Fore disc granulate and with 4 (2+2) curved callosities; hind disc transversely striate and with 2 (1+1) transverse callosities.

Scutellum: Semicircular, shorter than its basal width (15:23); basal $\frac{1}{3}$ of disc with rough longitudinal striation, surrounded with concentric striation.

Hemelytra: Reaching hind border of tergum VI; corium reaching basal $\frac{1}{3}$ of scutellum.

Abdomen: Ovate, longer than its maximum width across segment IV (70:52); posteroexterior angles of connexiva barely protruding; paratergites very short, not reaching tip of segment IX; the latter truncate posteriorly. Spiracles II, VI, and VII lateral and visible from above; III to V ventral, equidistant from border; VIII terminal. Sublateral fold reaches hind border of sternum VI.

Posterior lobe of propleuron swollen and granulate, visible from above.

Male.—Similar to female, but smaller; paratergites small, reaching tip of rounded, posteriorly, small hypopygium.

Measurements.—head 15.0:15.5; relative length of antennal segments I to IV are: 5:5:5:11; pronotum 14:31; scutellum 15:20; abdomen 59:48; hypopygium 3:5.

Color.—Yellow brown (δ) to dark brown (♀)

Total length.— ♀ —4.68, δ —4.20; width of pronotum: ♀ —1.40, δ —1.24; width of abdomen: ♀ —2.08, δ —1.92 mm.

Holotype.— ♀ , Mexico, Vera Cruz, Las Cabañas; 10.VII.1972, H. Brailovsky leg.; deposited at the Instituto de Biología, UNAM, Mexico 20, Mexico.

Allotype— δ , collected with holotype; same collection.

Paratypes.—1 ♀ , 1 δ (without head), collected with holotype; same collection and Kormilev collection.

Remarks.—*Aneurus brailovskyi* is closely related to *A. arizonensis* Picchi, 1977, and runs to it in Picchi's key, but may be separated from it by the following: Anterior process of head not reaching tip of antennal segment I (produced beyond tip in *A. arizonensis*); postocular tubercles only reaching, or barely protruding, beyond outer border of eyes (distinctly protruding in *A. arizonensis*); hind lobe of propleuron more swollen and visible from

above (less swollen and not visible from above in *A. arizonensis*); and ratio between length of antennae and width of head across eyes is 1.635 (1.535 in *A. arizonensis*).

The holotype was compared with a paratype of *A. arizonensis* from the collections of the American Museum of Natural History, New York, N.Y.

It is a pleasure to dedicate this species to its collector Dr. Harry Brailovsky, Instituto de Biología, UNAM, Mexico, Mexico.

Aneurus aterrimus Kormilev, NEW SPECIES

Figs. 4-6

Male.—Elongate with subparallel sides; head, pronotum, scutellum and connexivum partially, finely granulate.

Head: Longer than its width across eyes 16.0:15.5; anterior process rounded anteriorly; genae short, by far not reaching tip of clypeus; almost reaching tip of antennal segment I. Antenniferous tubercles truncate anteriorly, acute anterolaterally. Postocular tubercles blunt, not reaching outer border of eyes. Eyes semiglobose, protruding. Vertex with 2 (1+1) large, ovate infraocular callosities. Antenna strong; antennal segment I elongate obovate, II obovate, III tapering toward base, IV fusiform; relative length of antennal segments I to IV are: 5.5:4.5:5.0:10.0; ratio length of antenna: width of head across eyes as 1.61:1.00. Labium reaching line connecting hind borders of eyes.

Pronotum: Half as long as its maximum width (16:33); collar sinuate anteriorly; anterolateral angles rounded, neither produced forward, nor sideways. Lateral notch forming obtuse angle; lateral borders of hind lobe subparallel, slightly rounded; hind border slightly sinuate medially. Fore disc with 2 (1+1) larger callosities and 4 (2+2) smaller laterad of them; hind disc finely granulate.

Scutellum: Semicircular, shorter than its basal width (15:22); disc densely granulate on basal $\frac{1}{3}$, less densely around basal $\frac{1}{3}$.

Hemelytra: Almost reaching hind border of tergum VII; corium reaching basal $\frac{1}{3}$ of scutellum.

Abdomen: Elongate, with slightly rounded sides; longer than its maximum width across segment IV (61:41); posteroexterior angles of connexiva not protruding. Paratergites short, rounded posteriorly, reaching tip of a small hypopygium, which is shorter than its maximum width (3.0:5.5). Spiracles II, VI and VII lateral and visible from above; III to V sublateral, placed on sublateral fold; VIII terminal. Sublateral fold extends from III to hind border of VI.

Female.—Similar to male, but larger; paratergites very short, rounded posteriorly, reaching tip of truncate segment IX.

Measurements.—Head 16.0:15.5; relative length of antennal segments I

to IV are: 6:5:5:11; pronotum 19:36; scutellum 15:23; abdomen across segment IV (67:44); width of tergum VIII, 14.

Color.—Black; base of membrane dark brown. On some specimens pronotum laterad of collar yellow brown.

Total length.—♂—4.40, ♀—4.72 mm; width of pronotum: ♂—1.32, ♀—1.44 mm; width of abdomen: ♂—1.64, ♀—1.76 mm.

Holotype.—♂. Costa Rica, Monte Verde, Ponta Arenas; 9.II.1981, H. Brailovsky leg., deposited at the Instituto de Biología, UNAM, Mexico 20, Mexico.

Allotype.—♀. Same locality and date; E. Barrera leg.; same collection.

Paratypes.—3 ♂, 2 ♀, same locality and date, H. Brailovsky leg.; 3 ♂, 2 ♀, same locality and date, E. Barrera leg. Same collection and Kormilev collection.

Remarks.—*Aneurus aterrimus* runs to *A. slateri* Picchi, 1977, in Picchi's key but may be separated from it by: Head slightly longer than its width across eyes; antennal segment III tapering toward base, not fusiform; larger size; and different color, black.

Subfamily MEZIRINAE

Genus *Notapictinus* Usinger and Matsuda, 1949

Notapictinus piliger Kormilev, NEW SPECIES

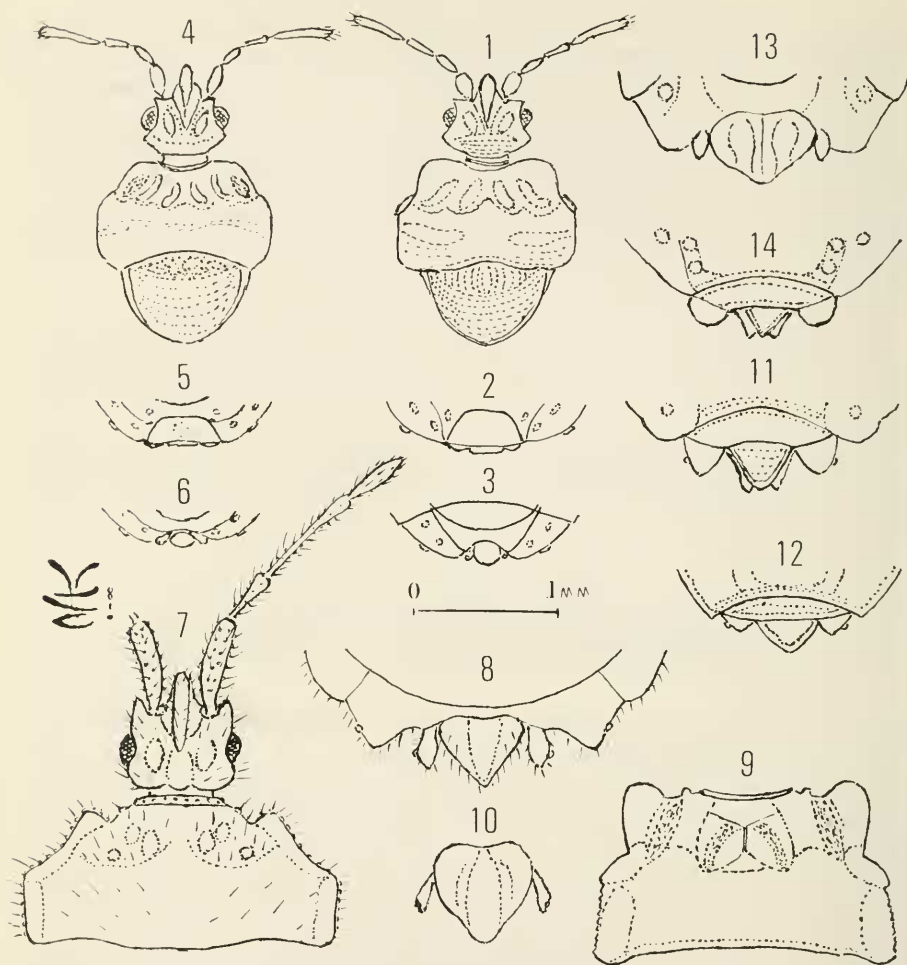
Figs 7, 8

Male.—Elongate ovate; body, particularly on the borders, antennae and legs, covered with stiff, erect bristles.

Head: Shorter than its width across eyes (21.0:22.5); anterior process with parallel sides, rounded anteriorly, reaching basal $\frac{1}{4}$ of antennal segment I. Antenniferous tubercles short, blunt, with parallel outer borders. Postocular borders rounded and granulate. Eyes moderately convex, shorter than preocular portion (5:7). Vertex moderately convex, granulate. Antennae long and thin, more than $2\frac{1}{2}\times$ as long as width of head across eyes (2.69:1.00); relative length of antennal segments I to IV are: 16.0:11.0:21.0:12.5. Labium not reaching hind border of labial groove, which is open posteriorly.

Pronotum: Less than $\frac{1}{2}$ as long as its maximum width (27:58); collar truncate anteriorly, granulate. Anterolateral angles rounded and produced forward, reaching hind border of collar. Fore border between collar and anterolateral angles sinuate and with a cluster of granules in the middle. Lateral borders of fore lobe and hind lobe in front of humeri expanded and crenate. Lateral borders of hind lobe roughly granulate. Hind border twice (1+1) sinuate laterad of scutellum. Fore disc with 2 (1+1) flat callosities, granulate between and laterad of them. Hind disc irregularly granulate.

Scutellum: Crushed by pin.



Figs. 1-3. *Aneurys brailovskyi*. 1, Head, pronotum, and scutellum, ♀. 2, Tip of abdomen from above, ♀. 3, Tip of abdomen from above, ♂. Figs. 4-6. *A. aterrimus*. 4, Head, pronotum, and scutellum, ♀. 5, Tip of abdomen from above, ♀. 6, Tip of abdomen from above, ♂. Figs. 7, 8. *Notapictinus piliger*, ♂. 7, Head and pronotum. 8, Tip of abdomen from above. Figs. 9-11. *Mezira hondurensis*. 9, Pronotum, ♂. 10, Hypopygium and paratergites, ♂. 11, Tip of abdomen from above, ♀. Fig. 12. *M. proxima*, ♀, tip of abdomen from above. Figs. 13, 14. *M. guanacastensis*. 13, Tip of abdomen from above, ♂. 14, Tip of abdomen from above, ♀.

Hemelytra: Reaching hind border of tergum VII; corium reaching hind border of connexivum II; its basolateral border straight, slightly expanded and granulate; apical angle acute and produced backward; apical border sinuate. Membrane with anastomosed veins.

Abdomen: Ovate, longer than its maximum width across segment V (90:70); posteroexterior angles of connexiva II to IV not protruding; V slightly produced, rounded; VI more protruding, rounded; exterior border between VI and VII sinuate; VII rounded, forming subangular lobe. Paratergites clavate, reaching $\frac{2}{3}$ of hypopygium; the latter pointed posteriorly and with a stout median ridge, almost reaching tip of disc. Spiracles II to V ventral, placed far from border; VI sublateral, but not visible from above; VII and VIII lateral and visible from above. Sterna III to VI with swollen hind border.

Legs: Unarmed.

Color.—Reddish brown; connexiva with pale yellow spots; hypopygium dark brown; antenna and legs yellow brown.

Total length.—6.72 mm; width of pronotum 2.32 mm; width of abdomen 2.80 mm.

Holotype.—♂, Colombia, Ville de Cauca, 4 km NW San Antonio, 6500'; A.H. Miller leg. 1.XI.1958. Deposited at the California Academy of Sciences, San Francisco, California.

Remarks.—*Notapictinus piliger* runs to *N. quadraticeps* (Champion), 1898, in my key (Kormilev, 1967: 7) but may be separated at once by the long, erect bristles on the body, antennae, and legs.

Genus *Mezira* Amyot and Serville, 1843

Mezira hondurensis Kormilev, NEW SPECIES

Figs. 9—11

Male.—Elongate ovate, partially covered with short, golden, curled hairs; connexivum tricolored, ferruginous, yellow, and black.

Head: As long as its width across eyes (24:24); anterior process with parallel sides, incised anteriorly, reaching $\frac{1}{2}$ of antennal segment I; antenniferous tubercles acute and slightly divaricating; postocular small, not reaching outer border of eyes. Eyes large, strongly protruding. Vertex with M-shaped rows of granules. Antennae moderately strong, twice as long as width of head across eyes (49:24); relative length of antennal segments I to IV are: 13:11:15:10. Labium reaching hind border of labial groove, which is closed posteriorly.

Pronotum: Short and wide (28:54); collar sinuate anteriorly, granulate; anterolateral angles produced forward as rounded lobes as far as collar; lateral notch forming an obtuse angle; lateral borders of hind lobe parallel, rounded and strongly converging anteriorly; hind border twice sinuate. Fore disc with 4 (2+2) ridges; hind disc granulate.

Scutellum: Shorter than its basal width (25:30); all borders carinate, lateral sinuate before apex, tip rounded. Disc with 2 (1+1) transverse, naked elevations along basal border; median ridge narrow.

Hemelytra: Reaching hind border of tergum VI; corium reaching $\frac{1}{2}$ of connexivum III, its basolateral border slightly sinuate and reflexed, apical border sinuate interiorly, rounded exteriorly; apical angle rounded.

Abdomen: Ovate, longer than its maximum width across segment IV (89:67); lateral borders rounded; posteroexterior angles of connexiva II to VI slightly protruding, VII rounded. Paratergites clavate, reaching $\frac{2}{3}$ of hypopygium; the latter cordate, median ridge reaching tip of disc. Spiracles II to VII ventral, placed far from border, VIII lateral and visible from above.

Female.—Similar to male, but slightly larger. Paratergites large, rounded posteriorly, reaching $\frac{1}{2}$ of incised posteriorly segment IX.

Measurements.—Head 25:25; relative length of antennal segments I to IV are: 13:11:15:10; pronotum 28:55; scutellum 25:32; abdomen 95:69; width of tergum VIII, 29.

Color.—Ferruginous; connexivum with yellow round spots and anterior $\frac{1}{4}$ of exterior border; posterior $\frac{3}{4}$ of exterior border is black.

Total length.—♂—6.76, ♀—7.00 mm; width of pronotum: ♂—2.16, ♀—2.20 mm; width of abdomen: ♂—2.68, ♀—2.76 mm.

Holotype.—♂, Honduras, 10 km N Siguatepeque; 20.VIII.1978, J.A. Chemsak, E.G. & J.M. Linsley leg. Deposited at the California Academy of Sciences, San Francisco.

Allotype.—♀, collected with holotype; same collection.

Paratypes.—♂, 2 ♀, collected with holotype; same collection and Kormilev collection.

Remarks.—*Mezira hondurensis* is related to *M. hyperlobata* Kormilev, 1962, from Brasil, but the head is as long as the width across the eyes; the anterolateral lobes of the pronotum are directed more forward and only reach level of the collar; the lateral notch of the pronotum is obtuse; and the (♀) paratergites are large, reaching $\frac{1}{2}$ length of segment IX.

Mezira proxima Kormilev, NEW SPECIES

Fig. 12

Female.—Elongate ovate, abdomen with subparallel sides; prosternum, propleura and venter laterally, with thin layer of white incrustation. Pilosity short and curled.

Head: Shorter than its width across eyes (21.0:23.5); anterior process rounded and slightly incised anteriorly, genae contiguous in front of clypeus, reaching $\frac{2}{3}$ of antennal segment I; antenniferous tubercles wide, acute, divaricating; postocular dentiform, reaching or almost reaching, outer border of eyes. The latter large, protruding. Vertex with V-form rows of granules. Antennae moderately stout, less than $1\frac{1}{2}\times$ as long as width of head across eyes (32.5:23.5); relative length of antennal segments I to IV are: 10.0:7.0:8.0:7.5. Labium not reaching hind border of labial groove, which is closed posteriorly.

Pronotum: Less than $\frac{1}{2}$ as long as its maximum width (22:48); collar slightly sinuate anteriorly and granulate; anterolateral angles rounded, crenulate and slightly expanded; lateral notch shallow; lateral borders of hind lobe parallel, converging anteriorly; hind border sinuate medially. Fore disc with 4 (2+2) oblique ridges; hind disc granulate.

Scutellum: Shorter than its basal width (20:25); disc crushed by pin.

Hemelytra: Reaching hind border of tergum VI; corium reaching $\frac{1}{2}$ of connexivum III; its hind border rounded, apical angle also rounded.

Abdomen: Longer than its maximum width (80:54); lateral borders subparallel from II to V, then converging in arquate line; connexiva II and III semifused together; posteroexterior angles of connexiva not protruding; paratergites subangular, rounded posteriorly, reaching $\frac{1}{2}$ of rounded posteriorly segment IX. Spiracles II to VI ventral, placed far from border; VII also ventral, placed nearer to border; VIII lateral and visible from above.

Legs: Unarmed; femora and tibiae roughly granulate.

Color.—Testaceous; membrane infuscate, white at base.

Total length.—5.80 mm; width of pronotum 1.92 mm; width of abdomen 2.16 mm.

Holotype.—♀, Peru, Loromayo, 4–10.IX.1962, L.E. Peña leg. Deposited at the California Academy of Sciences, San Francisco.

Remarks.—*Mezira proxima* is closely related to *M. paraensis* Kormilev and Hess, 1979, but is larger; the labium is relatively shorter, not reaching the hind border of the labial groove; the basolateral border of the corium is straight; spiracle VII is placed near the margin; and the ventral side of the body is partially incrustated.

Mezira guanacastensis Kormilev, NEW SPECIES

Figs 13, 14

Male.—Closely related to *Mezira neotropicalis* (Champion), 1898, but smaller; antennae relatively shorter, only $1.52\times$ as long as width of head across eyes ($2\times$ in *M. neotropicalis*); antennal segment III relatively shorter, only slightly longer than I and only by $\frac{1}{3}$ longer than IV (much longer than I (23:18) and almost twice as long as IV (23:13) in *M. neotropicalis*); antenniferous tubercles relatively shorter and not so pointed as in *M. neotropicalis*. Hypopygium relatively wider, ratio length:width as 13:18 (13:16 in *M. neotropicalis*). Paratergites (♀) relatively shorter, reaching $\frac{1}{2}$ of segment IX (almost reaching tip of IX in *M. neotropicalis*).

Measurements.—Head: ♂—22:24, ♀—23:25; relative length of antennal segments I to IV are: ♂—10.0:8.0:11.0:7.5, ♀—11:8:12:8; pronotum: ♂—25:49, ♀—26:50; scutellum: ♂—18:26, ♀—18:28; abdomen: ♂—73:56, ♀—88:62; hypopygium 13:20; width of tergum VIII (♀), 27.

Paratergites.—(♂) clavate, reaching slightly beyond $\frac{1}{2}$ of hypopygium; the latter cordate, shorter than its maximum width. Rounded posteriorly in

female reaching $\frac{1}{2}$ of segment IX. Spiracles II to VII ventral, placed far from border; VIII ventral, placed near border.

Color.—Ferruginous, membrane black.

Total length.—♂—5.64, ♀—6.20 mm; width of pronotum: ♂—1.96, ♀—2.04 mm; width of abdomen: ♂—2.24, ♀—2.48 mm.

Holotype.—♂, Costa Rica, Guanacaste Prov., Comelco Areal, 5 km W Bagaces; under bark; 28.IX.1973, P. A. Opler leg. Deposited at the California Academy of Sciences, San Francisco.

Allotype.—♀, collected with holotype; same collection.

Paratypes.—5 ♂, collected with holotype; same collection and Kormilev collection.

ACKNOWLEDGMENT

I express my sincere thanks to L. Jessop, Department of Entomology, British Museum (Natural History), London, who kindly examined the types of *Mezira neotropicalis* (Champion), 1898, and made drawings of the genital segments.

LITERATURE CITED

- Champion, G. C. 1898. *Biologia Centrali-Americana*. London. Heteroptera 2: 65–117, 3 pls.
- Kormilev, N. A. 1962. Notes on Aradidae in the Naturhistoriska Riksmusem, Stockholm (Hemiptera-Heteroptera). *Ark. Zool.* (2) 15(14): 255–273, 2 pls.
- . 1967. On some Aradidae from Brasil, Argentina and Laos; (Hemiptera-Heteroptera). *Opusc. Zool. (Munich)* 100: 1–10.
- Kormilev, N. A. and E. Heiss. 1979. Four new species and lectotype designation of some neotropical Aradidae (Insecta, Heteroptera). *Entomol. Arb. Mus. G. Frey Tutzing bei Muench.* 28: 93–118, 34 figs.
- Picchi, V. D. 1977. A systematic review of the genus *Aneuris* of North and Middle America and the West Indies (Hemiptera: Aradidae). *Quaest. Entomol.* 13: 255–308, 233 figs, IX maps.